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09/849,053	05/04/2001	Michael A. Fischer	INSL0035	9054

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EXAMINER	
MATTIS, JASON E	

ART UNIT	PAPER NUMBER
2665	

DATE MAILED: 12/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/849,053	FISCHER ET AL.	
	Examiner	Art Unit	
	Jason E Mattis	2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-22 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-22 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 2/19/03.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

More specifically, independent claims 1, 12, and 20 all contain limitations similar to the limitation in lines 13-14 of claim 1 that states, "while bypassing is active, dropping enqueued unmarked frames until a marked frame is detected". In the written description of the invention, a process of dropping unmarked frames at the head of a queue until an unmarked frame is detected at the head of the queue during bypassing is described. The language of the claims however, indicates that all currently enqueued unmarked frames, regardless of their position in the queue, are dropped while bypassing is active. Further, there is no limitation in the claims that indicates that the marked frames are detected in any order, for example in the order that they are placed in the queue. Therefore, it is unclear what is meant by "until a marked frame is detected", since there is no established order of detecting frames. The wording of the claims indicates that the enqueued unmarked frames are dropped in bypassing mode, meaning that only marked frames would remain in the queue, so all frames detected in the queue after the activating bypass mode are marked frames.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-3, 12-14, and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by St-Denis et al. (U.S. Pat. 6345037).

With respect to claim 1, St-Denis et al. discloses a method by a transmitter for processing frames in a FIFO transmit queue during each of successive transmission intervals with the frames being received across a variable delay interface from a scheduler system **(See column 3 lines 1-31 and Figure 1 of St-Denis et al. for reference to a method by a transmitter, ATM switch 12, for processing frames, ATM cells, in a FIFO transmit queue, buffers 18, being received from routers 14 and 16 across a variable delay interface between the switch 12 and the routers 14 and 16 with the routers containing a system that schedules and transmits ATM cells to the switch 12)**. St-Denis et al. also discloses detecting frames and marked frames that are transition frames as compared to unmarked frames enqueued in the transmit queue **(See column 4 line 27 to column 5 line 26 of St-Denis et al. for reference to detecting cells, or frames, that are marked as End of Message, or**

EOM, cells, which are transition cells). St-Denis et al. further discloses for each allowed transmission interval while bypassing is not active, dequeuing and transmitting enqueued unmarked frames until there is insufficient time remaining in the interval or until a marked frame is detected during the interval and ending transmission from the transmit queue when a marked frame is detected **(See column 5 lines 8-26 and Figure 4 of St-Denis et al. for reference to while in state 38, meaning bypassing is enabled but not active, transmitting though the switch every cell, whether marked as EOM or not, until an EOM cell is detected indicating the end of a frame transmission interval and repeating this process for each frame transmission interval while in state 38)**. St-Denis et al. also discloses that while bypassing is active, dropping enqueued unmarked frames until a marked frame is detected **(See column 5 lines 8-26 and Figure 4 of St-Denis et al. for reference to once a cell has been discarded for any reason activating bypassing by moving to state 40 and for reference to while in state 40, dropping all cells until a cell with an EOM mark is received)**.

With respect to claim 12, St-Denis et al. discloses a method of synchronizing data transmission between a computer system and a transmitter across a variable interface with variable delay an latency **(See column 3 lines 1-31 and Figure 1 of St-Denis et al. for reference to a method by a transmitter, ATM switch 12, for processing frames, ATM cells, being received from routers 14 and 16 across a variable delay interface between the switch 12 and the routers 14 and 16)**. St-Denis et al. also discloses marking transition frames between successive transmission

intervals **(See column 3 lines 49-67 of St-Denis et al. for reference to marking cells, or frames, as End of Message, or EOM, cells between successive transmission frames, or intervals)**. St-Denis et al. also discloses transferring frames including marked frames across the variable delay interface to the transmitter **(See column 3 lines 1-31 and Figure 1 of St-Denis et al. for reference to transferring cells from routers 14 and 16 across a variable delay interface to ATM switch 12)**. St-Denis et al. further discloses enqueuing the frames transferred via the variable delay interface into a FIFO transmission queue **(See column 3 lines 21-31 of St-Denis et al. for reference to enqueuing cells in buffers 18, which are FIFO transmission queues)**. St-Denis et al. also discloses detecting frames and marked frames that are transition frames as compared to unmarked frames enqueued in the transmit queue **(See column 4 line 27 to column 5 line 26 of St-Denis et al. for reference to detecting cells, or frames, that are marked as End of Message, or EOM, cells, which are transition cells)**. St-Denis et al. further discloses for each allowed transmission interval while bypassing is not active, dequeuing and transmitting enqueued unmarked frames until there is insufficient time remaining in the interval or until a marked frame is detected during the interval and ending transmission from the transmit queue when a marked frame is detected **(See column 5 lines 8-26 and Figure 4 of St-Denis et al. for reference to while in state 38, meaning bypassing is enabled but not active, transmitting though the switch every cell, whether marked as EOM or not, until an EOM cell is detected indicating the end of a frame transmission interval and repeating this process for each frame transmission interval while in state 38)**. St-

Denis et al. also discloses that while bypassing is active, dropping enqueued unmarked frames until a marked frame is detected **(See column 5 lines 8-26 and Figure 4 of St-Denis et al. for reference to once a cell has been discarded for any reason activating bypassing by moving to state 40 and for reference to while in state 40, dropping all cells until a cell with an EOM mark is received)**.

With respect to claims 2 and 13, St-Denis et al. discloses if an enqueued marked frame is detected, clearing the mark so the frame becomes an unmarked frame **(See column 5 lines 38-61 and Figure 4 of St-Denis et al. for reference to discarding any cell with an EOM mark while in state 42, meaning that the mark of the cell is cleared as the cell is discarded)**.

With respect to claims 3 and 14, St-Denis et al. discloses activating bypassing if a marked frame has not been detected during an interval **(See column 5 lines 8-26 and Figure 4 of St-Denis et al. for reference to after a first cell has been discarded for any reason, activating bypassing and discarding all cells as long as a marked cell has not been detected)**. St-Denis et al. also discloses if a marked frame is detected, clearing the mark and deactivating bypassing **(See column 5 lines 38-61 and Figure 4 of St-Denis et al. for reference to discarding any cell with an EOM mark while in state 42, meaning that the mark of the cell is cleared as the cell is discarded and for reference to once a cell with an EOM mark has been detected, deactivating bypassing by returning to state 36)**.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 4-8, 10, 15-16, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over St-Denis et al. in view of Divivier et al. (U.S. Pat. 6618382).

With respect to claims 4 and 15, St-Denis et al. discloses enabling queue mark operation if a marked frame is detected while queue mark operation is not active **(See column 4 line 52 to column 5 lien 7 and Figure 4 of St-Denis et al. for reference to enabling packet discard, which is the queue mark function, in response to receiving a frame with an EOM mark while packet discard is no active in state 34)**. St-Denis et al. does not disclose incrementing a bypass variable each time an interval ends without detecting a mark frame and disabling queue mark operation if the bypass variable reaches a bypass limit.

With respect to claims 10 and 18, St-Denis does not disclose setting the bypass variable to zero if queue mark operation is disabled because the bypass variable had reached the bypass limit.

With respect to claims 4, 10, 15, and 18, Divivier et al., in the field of communications, discloses incrementing a bypass variable each time an interval ends

without detecting a mark frame and disabling queue mark operation if the bypass variable reaches a bypass limit **(See column 2 line 65 to column 3 line 8 of Divivier et al. for reference to using a counter that is incremented for each cell, in this case the time interval is the time to count a cell, that does not contain an EOF mark, which is the same as the EOM mark of St-Denis, and clearing the counter if a cell with an EOF mark is detected and for reference to disabling a packet discard function once the counter exceeds a threshold)**. Divivier et al. also discloses setting the bypass variable to zero if queue mark operation is disabled because the bypass variable had reached the bypass limit **(See column 5 lines 42-51 and Figure 6a of Divivier et al. for reference to resetting the counter to zero after passing the threshold in state 610)**. Using a bypass variable to disable a queue mark operation has the advantage of obviating the need for a service provider to turn on/off a packet discard feature by automatically detecting network traffic type **(See column 3 lines 9-12 of Divivier et al. for reference to this advantage)**.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Divivier et al., to combine using a bypass variable to disable a queue mark operation, as suggested by Divivier et al., with the method of St-Denis et al., with the motivation being to obviate the need for a service provider to turn on/off a packet discard feature by automatically detecting network traffic type.

With respect to claims 5 and 16, St-Denis et al. discloses ending transmission during an interval upon detecting a marked frame during the interval while queue mark

operation is active or upon timeout of the interval or if there is insufficient time in the interval to transmit another frame **(See column 5 lines 8-26 and Figure 4 of St-Denis et al. for reference to while in state 38, meaning bypassing is enabled but not active, transmitting though the switch every cell, whether marked as EOM or not, until an EOM cell is detected indicating the end of a frame transmission time interval and repeating this process for each frame transmission interval while in state 38)**.

With respect to claim 6, St-Denis et al. discloses transmitting an end of interval frame to end the interval early **(See column 5 lines 37-61 and Figure 4 of St-Denis et al. for reference to, when an EOM marked cell is detected, transmitting the marked frame even if previous cells have been discarded to end the transmission of the current frame of cells)**.

With respect to claim 7, St-Denis et al. discloses ceasing transmissions in order to end the interval early **(See column 5 lines 8-61 and Figure 4 of St-Denis et al. for reference to discarding all the cells of a frame, while in state 40, in order to conserve bandwidth and end a transmission interval early)**.

With respect to claim 8, St-Denis et al. discloses ceasing transmissions early by sending a frame with a control field that indicates final transmission **(See column 5 lines 37-61 and Figure 4 of St-Denis et al. for reference to, when an EOM marked cell is detected, transmitting the marked frame, with the mark indicating a final transmission, even if previous cells have been discarded to end the transmission of the current frame of cells)**.

5. Claims 11 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Voit et al. (U.S. Application 09/731053).

With respect to claims 11 and 19, St-Denis et al. does not disclose indicating whether to report transmission status of a frame and reporting whether the frame was successfully transmitted or dropped.

With respect to claims 11 and 19, Voit et al., in the field of communications, discloses indicating whether to report transmission status of a frame and reporting whether the frame was successfully transmitted or dropped **(See page 11 paragraph 118 of Voit et al. for reference to a switch that can implementing filters, meaning the filters can be implemented or can not implemented, with the filters monitoring to determine what, if any, packets get dropped and reporting this information)**. Indicating whether a frame was transmitted or dropped has the advantage of allowing a transmitter to generate reports that indicate a success/failure rate of sending packets so that failures can be monitored.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Voit et al., to combine indicating whether a frame was transmitted or dropped, as suggested by Voit et al., with the method of St-Denis, with the motivation being to allow a transmitter to generate reports that indicate a success/failure rate of sending packets so that failures can be monitored.

6. Claims 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over St-Denis et al. in view of Dellaverson (U.S. Pat. 5867492).

With respect to claim 20, St-Denis et al. discloses a scheduler that transfers frames for transmission via an interface with variable delay and latency **(See column 3 lines 1-31 and Figure 1 of St-Denis et al. for reference to a transmitter, ATM switch 12, for processing frames, ATM cells, in a FIFO transmit queue, buffers 18, being received from routers, or schedulers, 14 and 16 across a variable delay interface between the switch 12 and the routers 14 and 16 with the routers containing a system that schedules and transmits ATM cells to the switch 12)**. St-Denis et al. also discloses marked frames that are transition frames intended for transmission **(See column 4 line 27 to column 5 line 26 of St-Denis et al. for reference to detecting cells, or frames, that are marked as End of Message, or EOM, cells, which are transition cells)**. St-Denis et al. further discloses a transmitter that enqueues the frames transferred via the variable delay interface into a FIFO transmission queue **(See column 3 lines 21-31 of St-Denis et al. for reference to enqueuing cells in buffers 18, which are FIFO transmission queues)**. St-Denis et al. further discloses for each allowed transmission interval while bypassing is not active, dequeuing and transmitting enqueued unmarked frames until there is insufficient time remaining in the interval or until a marked frame is detected during the interval and ending transmission from the transmit queue when a marked frame is detected **(See column 5 lines 8-26 and Figure 4 of St-Denis et al. for reference to while in state 38, meaning bypassing is enabled but not active, transmitting though the switch every cell, whether marked**

as EOM or not, until an EOM cell is detected indicating the end of a frame transmission interval and repeating this process for each frame transmission interval while in state 38). St-Denis et al. also discloses that while bypassing is active, dropping enqueued unmarked frames until a marked frame is detected **(See column 5 lines 8-26 and Figure 4 of St-Denis et al. for reference to once a cell has been discarded for any reason activating bypassing by moving to state 40 and for reference to while in state 40, dropping all cells until a cell with an EOM mark is received)**. St-Denis et al. does not disclose that the computer system is for wireless communications across a wireless medium.

With respect to claim 21, St-Denis et al. does not disclose a memory system storing software, a processor that executes software from the memory system, and a bus system coupled to the memory system and the processor.

With respect to claim 22, St-Denis et al. discloses at least one FIFO transmit queue **(See column 3 lines 1-31 and Figure 1 of St-Denis et al. for reference to buffers 18, which are FIFO transmit queues)**. St-Denis et al. also discloses a transmit frame manager that enqueues frames into a selected FIFO transmission queue and a transmission scheduler that processes enqueued frames **(See column 3 lines 1-31 and Figure 1 of St-Denis et al. for reference to a queue manager 20 that acts as both a transmit frame manager and a transmission scheduler by enqueuing cells in the buffers 18 and processing the cells)**. St-Denis et al. does not disclose a host interface, an antenna, and a transmitter coupled to the antenna for sending and receiving frames.

With respect to claims 20-22, Dellaverson, discloses a wireless ATM transmitter including a memory system storing software, a processor that executes the software, a bus system coupled to the memory system and processor, a host interface, an antenna, and a transmitter coupled to the antenna for sending and receiving frames **(See column 3 line 41 to column 4 line 15 and Figure 2 of Dellaverson for reference to a wireless ATM transmitting unit 10 that has a memory system, EPROM 132, storing software, a processor 130 executing the software, a bus connecting the EPROM 132 and processor 130, a host interface, operator interface 133, an antenna 104, and a transmitter 101 coupled to the antenna)**. The wireless ATM transmitter has the advantage of allowing a user to received and transmit data without having to be connected to a data source by a wired interface.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Dellaverson, to combine the wireless ATM transmitter of Dellaverson, with the system of St-Denis, with the motivation being to allow user to received and transmit data without having to be connected to a data source by a wired interface.

Allowable Subject Matter

7. Claims 9 and 17 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Nguyen (U.S. Pat. 6680906) discloses marking packets with drop priorities and dropping packets based on these priorities when a queue becomes congested.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason E Mattis whose telephone number is (571) 272-3154. The examiner can normally be reached on M-F 8AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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